

Atty. Docket No.: 005329 USA M Y1/MASK/RT/OR (CA1124)
PATENT APPLICATION

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Application No.: 09/876,955

REMARKS

Claims 1, 2 and 4-34 are all the claims pending in the application.

Applicants respectfully request entry of this amendment, as it introduces no new issues requiring further search and/or consideration. By this amendment, Applicants merely incorporate the limitations of claim 3 into independent claims 1, 11 and 23. Since the limitations of claim 3 have already been considered, the incorporation of those limitations into the independent claims introduces no new issues requiring further search and/or consideration.

Claims 1, 2, 5, 6, 9, 11-16, 19, and 21-22 stand rejected under 35 USC 103(a). Applicants respectfully submit that this rejection is moot in view of this amendment. Claims 3, 4, 7, 8, 10, 17, 18, 20, 23, 24, 27, and 29-33 stand rejected under 35 USC 103(a). Applicants respectfully submit that this rejection is moot in view of this amendment, except that a discussion with respect to the rejection of claim 3 is provided below. Claim 34 stands rejected under 35 USC 103(a). Applicants respectfully submit that this rejection is moot in view of this amendment.

The limitations of claim 3 have been incorporated into all of the pending independent claims. These limitations recite that prior to the comparison step, the images are transformed so as to simulate the behavior of the exposure system and the photoresist. Applicants respectfully submit that non of the cited art disclose or suggest such a feature. Notably, in the pending office action it is alleged that Shirazi discloses to pass the images through a Fourier transform plane. However, Shirazi never discloses or suggests to transform the image so as to simulate the behavior of an exposure system and a photoresist.

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Shirazi's Fourier transformation is very different from the claimed transformation and, as is well known, is used to decompose an image into its frequencies and phases. In fact, as can be easily understood by an artisan, Shirazi inserts a spatial filter at the furrier transform plane so as to control which phases the system's CCD receives. That is, in order to select which phase is detected, Shirazi needs to decompose the image into its phases by passing it through a Fourier transform so that phase information is transformed into spatial information. Then, using the spatial filter Shirazi is able to select any of the phases(see lines 4-9 on column 14).

Fourier transform, however, does not modify the image, but rather decomposes it to its original frequency and phase components. The claim, on the other hand, recites transforming the image so as to simulate the behavior of an exposure system and a photoresist. Shirazi never mentions or suggests transforming the image to simulate the behavior of an exposure system and a photoresist.

The use of Fourier transform for transforming spatial information into frequency and phase information can be understood very well by reference to an online tutorial produced by the University of Edinburgh at http://homepages.inf.ed.ac.uk/rbf/HIPR2/hipr_top.htm. The page discussing Fourier transforms can be found at <http://homepages.inf.ed.ac.uk/rbf/HIPR2/fourier.htm>. There, Fourier transform is described as:

"The Fourier Transform is an important image processing tool which is used to decompose an image into its sine and cosine components. The output of the transformation represents the image in the *Fourier* or frequency domain, while the

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input image is the spatial domain equivalent. In the Fourier domain image, each point represents a particular frequency contained in the spatial domain image."

The website also provides examples of images transformed to decompose frequencies and phases.

Therefore, at least by reason of inserting the limitations of claim 3 into independent claims 1, 11 and 23, these claims distinguish over the cited art and are allowable. All of the remaining dependent claims are allowable as at least due to their dependence on allowable independent claim.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

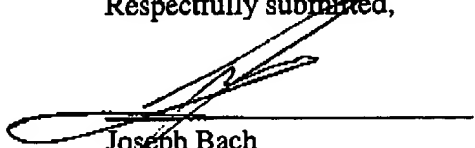
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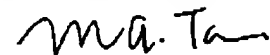
CUSTOMER NUMBER

Date: January 31, 2006


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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this AMENDMENT UNDER 37 C.F.R. § 1.116 is being facsimile transmitted to the U.S. Patent and Trademark Office this 31st day of January, 2006.



Mariann Tam